

CLAIMS.

1. A cellular radiotelephone signal, of the type including a main symmetrical bidirectional channel, including a main uplink and a main downlink, providing in particular low or medium speed transmission of signalling and control data and information, characterised in that it includes at least one additional channel solely assigned to downlink, providing in particular high speed data transmission.

2. A cellular radiotelephone signal according to claim 1, characterised in that, at a given moment, all or part of the transmission capacity of said additional channel is allocated dynamically to a particular mobile station.

3. A cellular radiotelephone signal according to claim 2, characterised in that information allowing the retrieval of data intended for a particular mobile station and carried by said additional channel is transmitted among said signalling and control information of said main downlink.

4. A cellular radiotelephone signal according to ^{claim 1} ~~any one of claims 1 to 3~~, characterised in that said main channel and said additional channel have synchronous frame structures.

5. A cellular radiotelephone signal according to ^{claim 1} ~~any one of claims 1 to 4~~, characterised in that said additional channel also provides for transmission of signalling and control information.

6. A cellular radiotelephone signal according to claim 5, characterised in that said additional channel provides at least for transmission of signalling and control information intended for mobile station(s) in the method of transmitting data intended for said mobile station, on said additional channel.

7. A cellular radiotelephone signal according to claim 6, characterised in that, when said additional channel carries high speed data intended for said mobile station, said signalling and control information intended for a mobile station is duplicated or switched from said main downlink onto said additional channel.

claim 1
8. A cellular radiotelephone signal according to ~~any one of claims 1 to 7~~, characterised in that said main channel implements a spread spectrum access technology (CDMA).

claim 1
9. A cellular radiotelephone signal according to ~~any one of claims 1 to 8~~, characterised in that said additional channel implements a multi-carrier technology providing distribution of data in the time/frequency space.

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10. A cellular radiotelephone signal according to claim 9, characterised in that said additional channel has a complex envelope responding to the following equation:

$$x(t) = \sum_{m,n} a_{m,n} i^{m+n} \mathfrak{S}(t - nT) e^{im\pi t/T}$$

where:

.m is an integer representing the frequential dimension;

.n is an integer representing the temporal dimension;

.t represents time;

.T is the time symbol;

.a_{m,n} is a real digital coefficient chosen from a pre-set alphabet;

.S is the prototype IOTA function (as defined in FR-95 05455).

claim 9
11. A cellular radiotelephone signal according to ~~any one of claims 9 and 10~~, characterised in that the transmission capacity of said additional channel is allocated to a given mobile station, dynamically, in

12. A cellular radiotelephone signal according to claim 11, characterised in that said signalling and control information of said main downlink includes retrieval information of said blocks in the time/frequency space.

13. A cellular radiotelephone signal according to ^{claim 11} ~~any one of claims 11 and 13~~, characterised in that at
10 least some of said blocks carry temporal and/or
15 frequential synchronisation references.

14. A cellular radiotelephone system of the type implementing a main symmetrical bidirectional channel, including a main uplink and a main downlink, providing in particular low or medium speed transmission of signalling and control data and information, characterised in that it also implements at least one additional channel solely assigned to the downlink, providing in particular high speed data transmission.

15. A cellular radiotelephone method of the type implementing a main symmetrical bidirectional channel, including a main uplink and a main downlink, providing in particular low or medium speed transmission of signalling and control data and information,

characterised in that it also implements at least one additional channel solely assigned to the downlink, providing in particular high speed data transmission.

16. A mobile station of a cellular radiotelephone system, including emission means of main uplink and reception means of a main downlink, said uplinks and downlinks forming a main symmetrical bidirectional channel providing in particular low or medium speed transmission of signalling and control data and information,

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characterised in that it also includes reception means of at least one additional channel solely assigned to the downlink, providing in particular high speed data transmission.

5 17. A mobile station of a cellular radiotelephone system according to claim 16, characterised in that it includes single synchronisation means implementing an analysis of said main channel and delivering synchronisation information to methoding means of said
10 main channel and to methoding means of said additional channel.

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18. A mobile station of a cellular radiotelephone system according to ^{claim 16} ~~any one of claims 16 and 17~~, characterised in that it includes a single reception
15 link including particularly transposition means onto an intermediate frequency of a received signal and demodulation means of the transposed signal, said received signal being able to be selectively said main downlink or said additional channel.

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19. A mobile station of a cellular radiotelephone system according to ^{claim 16} ~~any one of claims 16 to 18~~, characterised in that it includes recovery means of said signalling and control information selectively on
20 said main downlink or on said additional channel.

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25 20. A base station of a cellular radiotelephone system, of the type including reception means of a main uplink and emission means of a main downlink, said uplinks and downlinks forming a main symmetrical bidirectional channel providing in particular low or
30 medium speed transmission of signalling and control data and information,
characterised in that it also includes emission means of at least one additional channel solely assigned to the downlink, providing in particular high speed data
35 transmission.

[illegible]